Project Description

In a 1998 City project, drainage and storm water improvements were designed and installed to the drainage system between Kecoughtan Road and Victoria Blvd. Since then citizens have continued to complain of yard and street flooding. In response, the Pochin Place Drainage Study was commissioned to investigate the flooding issue and City drainage system in the vicinity of Pochin Place. The Indian River Creek Dredging project was the recommendation of that study. The recommendation is for a 20 foot bottom width channel from Kecoughtan Road to Hampton Roads Harbor. The ancillary channels will also be dredged, as needed, to facilitate drainage.

Frequently Asked Questions

1. What is the purpose of this project?
The project was undertaken in response to flooding complaints by citizens who suffered property damage during Isabel, Floyd, Ernesto and other severe storm events. The most severe flooding impacts were north of Kecoughtan Road, in the drainage way east of Pochin Place, where the ground is very low.

2. Exactly what is being considered?
A 2007 engineering study found that the drainage culverts under Kecoughtan Road are filled with sediment, and there is no clear outfall downstream through Indian River Creek--because the creek is filled with sediment. Even if the culverts were cleaned out, there is no path for the drainage to flow downstream. The flooding north of Kecoughtan Road can be mitigated by clearing a downstream flow path (i.e. by dredging a drainage channel through Indian River Creek), and constructing a storm gate at Kecoughtan Road to prevent storm surges from backing up north of Kecoughtan Road. The channel would be ten (20) feet wide in the bottom, and have side slopes extending up from the bottom at 3 horizontal to 1 vertical. The channel would be excavated down to approximately elevation minus 3 feet on the NAVD88 vertical datum. Depending upon the depth of the of the sediment at any particular location, the channel could be approximately 40 feet wide at the top of the excavation. It will be tapered to fit within the existing site constraints.

3. Can I see the design plans?
Production of final plans is expensive, and requires considerable environmental permitting activities and approvals to occur. At this point, no permit applications have been made (although the City has met with regulators on a preliminary basis). Preliminary plans have been developed, and will be put on the project web site for review. The plans remain in their current preliminary state because the extent of the required easements has become a significant issue. The preliminary plans do not show mitigation requirements (which will not affect property owners), nor construction access points (which will affect a few property owners because the contractor needs to have access to the project at feasible locations). The contractor will be required to work with

those homeowners affected by access locations to ensure that their properties are left in good condition. (Note: Please do not call the consultants named on the plans because their professional services agreements and liability carriers require them to work though the City--they cannot respond to questions from individuals.)

4. What is the issue with the easements?
The project had unknown easement and right-of-way issues at the beginning due to incomplete digital property records (due to the age of the subdivisions), and because the degree of sedimentation was unknown. If Indian River Creek was in better shape, the bottom portion below mean low water would be "state-owned bottom land" and easements would not be required in such areas. It is now apparent that due the severity of sedimentation, on the order of 60 or more drainage easements could be required. If citizens are generally cooperative in providing voluntary drainage easements, the project can move forward. If there is too much resistance the project could be re-evaluated and terminated.

5. How will the gate work?
The gate will allow normal tidal flushing through the existing culverts at Kecoughtan Road, which would be cleaned out. This is important to preserve constructed wetlands north of Kecoughtan Road. The gate will remain open under normal circumstances. A float mechanism will be activated when the water level in Indian River Creek rises above elevation 2.0 feet and there is no flow from upstream. This type of event would only occur during storm surges, approximately six or so times per year.

6. Will the project provide flood protection from hurricanes, nor'easters, and extreme storms?
South of Kecoughtan Road the answer is "no." North of Kecoughtan Road, the gate would block storm surges up to elevation 6.0 feet (NAVD88 datum). This would be substantial relief, and is the most protection that can be provided within existing topographic constraints. Storm surges higher than 6.0 feet would overtop Kecoughtan Road, and the gate would provide no protection. The project would improve street drainage south of Kecoughtan Road by unplugging the 27 or so exiting drainage pipes and channels that flow into the creek and are currently blocked by sediment.

7. What about the people who live South of Kecoughtan Road--will the storm gate increase flooding on their properties?
No. Storm surge elevations are determined by the height of water in the Atlantic Ocean and Chesapeake Bay, tides, winds, and atmospheric pressure. None of these causal factors is affected by the existence of a storm gate in an upstream tributary. Water seeks its own level. If it cannot flow into an upstream area, the elevation of the storm surge is unaffected by the presence of the gate. These types of gates are used throughout the world, and their effectiveness is well established.

8. Why can't we protect more properties by locating the gate farther downstream at Chesapeake Avenue?
Locating the gate at Chesapeake Avenue would greatly increase the project costs and

risk. The gate would have to be larger than the one being considered at Kecoughtan Road, and there is s significant sand flow at the Chesapeake Avenue Bridge. The specific risk is that sand could block the gate during a storm surge, preventing it from closing, and rendering it ineffective against the storm surge. The current project would have to be re-engineered at much greater cost and complexity, and required perpetual maintenance would be critical and costly. There is no sand problem at Kecoughtan Road.

9. What will the project cost and when would construction begin?
Project cost and scheduling depend upon a number of factors that have yet to be determined, including council approvals, funding availability, the terms and conditions of environmental permits that will be required, the length of time that it takes to obtain the required easements and permits, and the time to design and bid and award the contract. It is likely that if the project moves forward, construction would not start until summer 2011 at the very earliest. It is possible that the cost could exceed two million dollars.

10. What does the City need to move forward?
Substantial cooperation from citizens in giving voluntary drainage easements, followed by funding approval from Council, followed by successful permitting, design, and contract award.